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Filed : April 9, 2004

REMARKS

In the Office Action mailed December 11, 2007 the Examiner rejected all pending claims, namely, Claims 1-27. In view of the Applicants' prior Response, the Examiner withdrew the prior rejection. In this action, the Examiner provided new grounds of rejection. The Applicants request entry of the amendments listed above and consideration of the following remarks. Each rejection is discussed below in relation to each independent claim. Reconsideration is respectfully requested.

Rejections Under 35 U.S.C. § 112

The Examiner rejected Claim 14 under 35 U.S.C. § 112 as failing to have sufficient support in the specification and as being indefinite. The Examiner alleges that the following underlined limitations are not supported:

One or more multipliers, dividers, or both configured to receive at least one of the two or more signals and process the at least one signal to create the first signal at the first frequency and the second signal at a second frequency.

The Examiner asserts that this passage is interpreted to process one signal to create two signals. In response, the Applicant has amended Claim 14 to make clear that this process does not create two signals. Support for dividers, multipliers or both is found at paragraph [040]. Reconsideration is requested.

The Examiner rejected Claim 8 under 35 U.S.C. § 112 as being indefinite. The Examiner objects to the term 'if' in Claim 8. The Applicants have amended Claim 8 to add clarity. Reconsideration is requested.

Claims 1-13 Rejected Under 35 U.S.C. § 103

The Examiner rejected Claims 1-13 under 35 U.S.C. § 103 as being unpatentable over the three way combination of the Takenouchi reference (JP 06-338793) in view of the Kapetanac reference (U.S. Patent No. 6,163,223) in view of the Hjiplieris reference (U.S. Patent No. 5,237,291).

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Using the above-referenced rejection, the Examiner argued that it would be obvious to combine the Takenouchi reference, the Kapetanic reference, and the Hji pieris reference. The Applicants disagree and request reconsideration.

The Applicants respectfully submit that there is no motivation or suggestion to combine the Takenouchi reference, the Kapetanic reference, and the Hji pieris reference contained in any of these references.

Combining References

As way of background, the Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966) stated:

Under §103, the scope and content of the prior art are to be determined; differences between the prior art and claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Hence, as quoted above, the four factual inquires set forth in *Graham* for determining obviousness are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

When applying 35 U.S.C. §103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

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In this process, it is the Examiner that bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. To reach a proper determination under 35 U.S.C. §103, the examiner must step backward in time and into the shoes of a hypothetical “person of ordinary skill in the art” when the invention was unknown or being made. The examiner must then make a determination whether the claimed invention “as a whole” would have been obvious at the time to that person.

Knowledge of applicant’s disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the “differences,” conduct the search and evaluate the “subject matter as a whole of the invention. Thus, the Examiner may not use hindsight based on the Applicants’ disclosure.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Third, prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Applicants submit that the Examiner is not properly applying the test of obviousness as set forth above.

In meeting each of these requirements set forth above, the burden is on the Examiner. For example, the initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. The law in this area is clear

“To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line or reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

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When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper. Ex parte Skinner, 2 USPQ2d 1788 (Bd. Pat. App. & Inter.1986).

The standard, which the Examiner must meet, is "preponderance of evidence", which requires the evidence to be more convincing than the evidence which is offered in opposition to it. With regard to rejections under 35 U.S.C. §103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings established a *prima facie* case of obviousness) is more probable than not. *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

With regard to the Examiner rejection, the Examiner has cited to any text in any reference which would support or motivate this combination. Key word searching of the Takenouchi reference, the Kapetanic reference, and the Hjiipieris reference has not revealed any motivation for such a combination or to enable generation of an output signal at one or more output frequencies including limit processing and frequency modification as claimed. Because there is no teaching in the prior art, or citation to such a teaching within the cited referenced by the Examiner, the combination does not meet the burden set forth by the law, and as such, can not support an obviousness type rejection.

The Applicants also submit that the Examiner has not provided any motivation to combine in the Office Action as would be required to support an obviousness type combination. In the Office Action the Examiner does not cite the reason it would be obvious to combine these references but instead just asserts that it:

would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Hjiipieris et al. in the art of Takenouchi et al as to include the filters for removing unwanted harmonic cross coupling.

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Likewise, for the Kapetanic reference, the Examiner asserts:

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Kapetanic et al. in the art of Takenouchi et al as to include controllable frequency modifying means for providing further dynamic frequency control.

This is not however a sufficient basis. In fact, it is no basis at all but simply an unsupported assertion citing back claim limitations. The Applicants are unaware how the Examiner came to believe that an inventor would review the Takenouchi reference, the Kapetanic reference, and the Hji pieris reference and be motivated to combine these references in the exact manner as is claimed.

Impermissible Hindsight

As discussed above, the Applicants' attorney has electronically key word searched the Takenouchi reference, the Kapetanic reference, and the Hji pieris reference and has not located any such motivation or teaching to combine these references. The Applicants submit that the only location for such a motivation is found in the Applicants' own disclosure. This is an indication that the Examiner may be using impermissible hindsight to establish a perceived motivation to combine using the Applicants own disclosure. The motivation can not be taken from the Applicants' application, but instead must have independently existed at the time of invention.

It is not permissible to key word search on the claim terms and then simply combine references which contain similar terms or features. As stated above, there must be some express motivation within the references to combine each reference into the claimed system or method or this motivation must be well established and clearly known in the art and set forth in detail in the Office Action. The burden is on the Examiner and the Applicants submit that this burden has not been met and overcome. Reconsideration is requested.

For these reasons, the Applicant submit that independent Claims 1 and 8 are allowable over the Takenouchi reference, the Kapetanic reference, and the Hji pieris reference and

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allowance of these claims is requested. Claim 2-7 and 8-12 which depend from Claims 1 and 8 respectfully, are also submitted as being allowable based on their dependence from an allowable independent claim.

Limit Processing

Claim 8 also include the limitation requiring limit processing. The cited prior art does not teach limit processing. Limit processing is defined at paragraphs [014], [017], and [056]. Limit process is not the same as filtering. As a result, Claim 8 and the claims that depend from Claim 8 are also allowable.

Claims 14-18, 21-23 and 25-27 Rejected Under 35 U.S.C. § 103

The Examiner rejected Claim 14-18, 21-23 and 25-27 under 35 U.S.C. § 103 as being unpatentable over the three way combination of the Takenouchi reference (JP 06-338793) in view of the Kapetanac reference (U.S. Patent No. 6,163,223) in view of the Lemay reference (U.S. Patent No. 6,321,074).

In response, the Applicants repeat and incorporate the comments and arguments set forth above in connection with Claims 1-13. Again, the Examiner has not provided any reasoned basis or support for the assertion that it would have been obvious to one of ordinary skill in the art at the time of filing the application to combine these three references. Nor has the Examiner cited any passages in the prior art which would motivate combination of the prior art into the claimed invention. To this end, the Applicants' attorney is unable to locate such a passage. Asserting that something is 'well known in the art' is not sufficient to support an obviousness type rejection.

As discussed above, use of the Applicant's own specification to 'create' the claimed system or method from key word searching the prior art is impermissible.

A combination of prior art references which is unsupported by a motivation to combine is improper and as such, the Applicants request reconsideration and allowance of independent Claims 14 and 22, and the claims that depend therefrom.

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In addition, Claim 14 contains the limitation that the first and second signal be at non-integer multiplies of the first signal. The Lemay references does not teach that the first signal and the second signal be at non-integer multiplies. The Lemay reference only teaches that the "output frequency be larger than the synthesizer VCO by a rational (non-integer) factor greater than unity . . ." This is not teaching of a first signal and a second signal, neither of which are an output signal, as is claimed in Claim 14.

SUMMARY

Applicants assert that Claims 1-27 are in a condition for allowance and respectfully requests a notice as to the same. If any matters remain outstanding, the Examiner is invited to contact the undersigned by telephone.

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